

**Research Article**

DOI : 10.15740/HAS/AJSS/9.2/169-175

# Nutrients status in the surface and subsurface soils of dryland Agricultural Research Station at Chettinad in Sivaganga district of Tamil Nadu

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Received : 27.05.2014; Revised : 20.09.2014; Accepted : 05.10.2014

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**Summary**

A study on assessing the nutrient status of soils of Dryland Agricultural Research Station at Chettinad in Sivaganga District of Tamil Nadu was carried out to understand the relationship with various physico-chemical properties in surface and sub surface soil samples. Soil samples were collected at a depth of 0-15cm and 15-30cm and analyzed for available nitrogen, phosphorus, potassium, sulphur, DTPA extractable iron, copper, zinc, manganese and hot water soluble boron. The available N, P, K, S, DTPA extractable Zn, Cu, Mn and Fe ranged from 123.0-209, 14.0-28.0, 126.0-319.0 kg ha<sup>-1</sup>, 9.13-18.85, 0.10-3.52, 0.85-3.63, 24.02-49.21 and 8.9-22.38 mg kg<sup>-1</sup> in surface soils, respectively. Generally the soils were low in N, low to medium in available P and medium to high in available K and S in the surface soils. The surface soils were deficient in DTPA extractable Zn and hot water soluble boron, and adequate in available Cu, Fe, Mn. Hot water soluble (HWS) boron status ranged from 0.36-0.44mg kg<sup>-1</sup> in surface soils. The subsurface soils (15-30 cm) are low in available N, low in available P, low to medium in available K and S. The pH had significant positive correlation with EC, organic carbon and sulphur ( $r = 0.239^*$ ,  $0.293^*$  and  $0.241^*$ , respectively) and negatively correlated with CaCO<sub>3</sub> ( $r = -0.302^{**}$ ). Though the pH had positive correlation with CEC, available P, Zn and Mn but not significant and showed negative correlation with available N, K, Fe and B. Other physiochemical properties of soil showed either negative or positive non-significant correlation with available nutrient status.

**Key words :** Nutrients availability, Soil fertility, Red lateritic soils

**How to cite this article :** Malavath, Rajeshwar and Mani, S. (2014). Nutrients status in the surface and subsurface soils of dryland Agricultural Research Station at Chettinad in Sivaganga district of Tamil Nadu. *Asian J. Soil Sci.*, 9(2): 169-175.